DM-104

User Manual

Version 1.0

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Note:

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Chapter 1 Introduction

This LCD monitor displays information everywhere. Even under the most severe environments like steel plants or warehouses. The DM series offers multiple mounting options and very good brightness. The DM-104 is a 10.4" flat panel display specially designed to handle industrial display applications in industrial environments.

1.1 Checklist

Item	Description	Quantity
1	POWER ADAPTER	1
2	POWER CORD/175CM	1
3	VGA CABLE D-SUB 15P M TO M/180CM	1
4	PANEL-MOUNT KIT	4
5	WALL-MOUNT VIBRATION KIT	1
6	EXTENDED CHASSIS HOLDER FOR PANEL-MOUNT	1
7	SCREW BOLT	4
8	SCREW (M5X50)	4
9	SCREW (M3)	10
10	SCREW (M4)	8
11	ROUND CABLE D-SUB 9P /180CM, For TOUCH SCREEN (OPTIONAL)	1

1.2 Features

- Suitable for panel mounting and 75/100mm interface pads for arm mounting (conforms to the VESA standard)
- Panel Interface: Analog VGA signal (by AV-9261 Analog VGA to digital LCD interface board)
- Front OSD control keys to adjust the best display quality
- Side cabling design to lessen the LCD monitor's total thickness
- Front plastic panel material (DM-104)

1.3 Specifications

- **Display Model**
  - ✓ UB104S01 10.4" SVGA TFT LCD
  - ✓ Resolution：800X600
  - ✓ LCD Display Colors： 262,144 colors(18-bit)
  - ✓ Brightness： 250 cd/m^2
  - ✓ LCD MTBF： 50,000 hrs
  - ✓ Backlight MTBF： 25,000 hrs
  - ✓ VGA Input Interface：DUB 15
  - ✓ Horizontal Frequency：60-65 KHz
  - ✓ Vertical Frequency：60-75 Hz
  - ✓ Power Input Rating：12VDC
  - ✓ Operating Temperature：0-50^oC
  - ✓ Storage Temperature： -20~60^oC

- **Dynapro 10.4" Touch Screen (Optional)**
  - ✓ Type： analog resistive
  - ✓ Resolution： continuous
  - ✓ Light Transmission： typical value 75%
  - ✓ Surface Hardness：4H (Test condition：ASTM D3363-92A)
  - ✓ 8-wire Touch Screen
  - ✓ Touch Screen Interface： RS-232
  - ✓ Support Driver：Linux, MS-DOS, All Windows OS, OS/2, MAC, etc.

- **Adapter**
  - ✓ **Model Number**：UP0451E12P67L
  - ✓ **Input requirements**
    - ➢ Input Voltage Range：90 to 264 VAC.
    - ➢ Line Frequency Range：47 to 63HZ.
    - ➢ Maximum In-Rush Current：40A
    - ➢ Maximum Input Current：1.0 A
  - ✓ **Output Requirements**
    - ➢ Output Voltage Range ：+11.52V ~+12.48V (tolerance: ±5%) 3.75A 45 Watt
    - ➢ Ripple and Noise at +12V Voltage
    - ➢ Maximum Peak to Peak Ripple and Noise：120mv
  - ✓ **EMI Requirements**

    The power supply is designed to meet the following international regulations:

Regulation	**Class / Level**
CISPR	B
VCCI	B
FCC 15	B
Other	CD MARK

  - ✓ **EMS Requirements**

    The power supply is designed to meet the following International Regulations:

Regulation	**Class / Level**
IEC-61000-4-2	3
IEC-61000-4-3	2
IEC-61000-4-4	3
IEC-61000-4-5	3
IEC-61000-4-6	2
IEC-61000-4-11 Criteria	B

✓ **SAFETY REQUIREMENTS**

The power supply is designed to meet the following International Regulations:

Regulation	**Class / Level**
CSA 22.2-234	3
Other	CB

✓ **MTBF**

The power supply shall calculate an MTBF greater than 150K hours per MIL-HDBK-217 at 25 DegC and 100% of rated load.

✓ **Operating Temperature / humidity**

- Operating Temperature Range：0 to 40 DegC
- Storage Temperature Range：- 25 to 65 DegC
- Humidity Range (Operating) ：0 to 95% RH

✓ **Altitude:**

- Operating Altitude Range：0 Ft. to 10,000 Ft.
- Non-Operating Altitude Range：0 Ft. to 40,000 Ft.

✓ **Vibration:**

- Operating Vibration：1 Grms, 5 Hz to 500 Hz, random vibration, and 30 minutes along X, Y, Z-axis.
- Non-Operating Vibration：2 Grms, 5 Hz to 500 Hz, random vibration, 30 minutes along X, Y, Z axis.

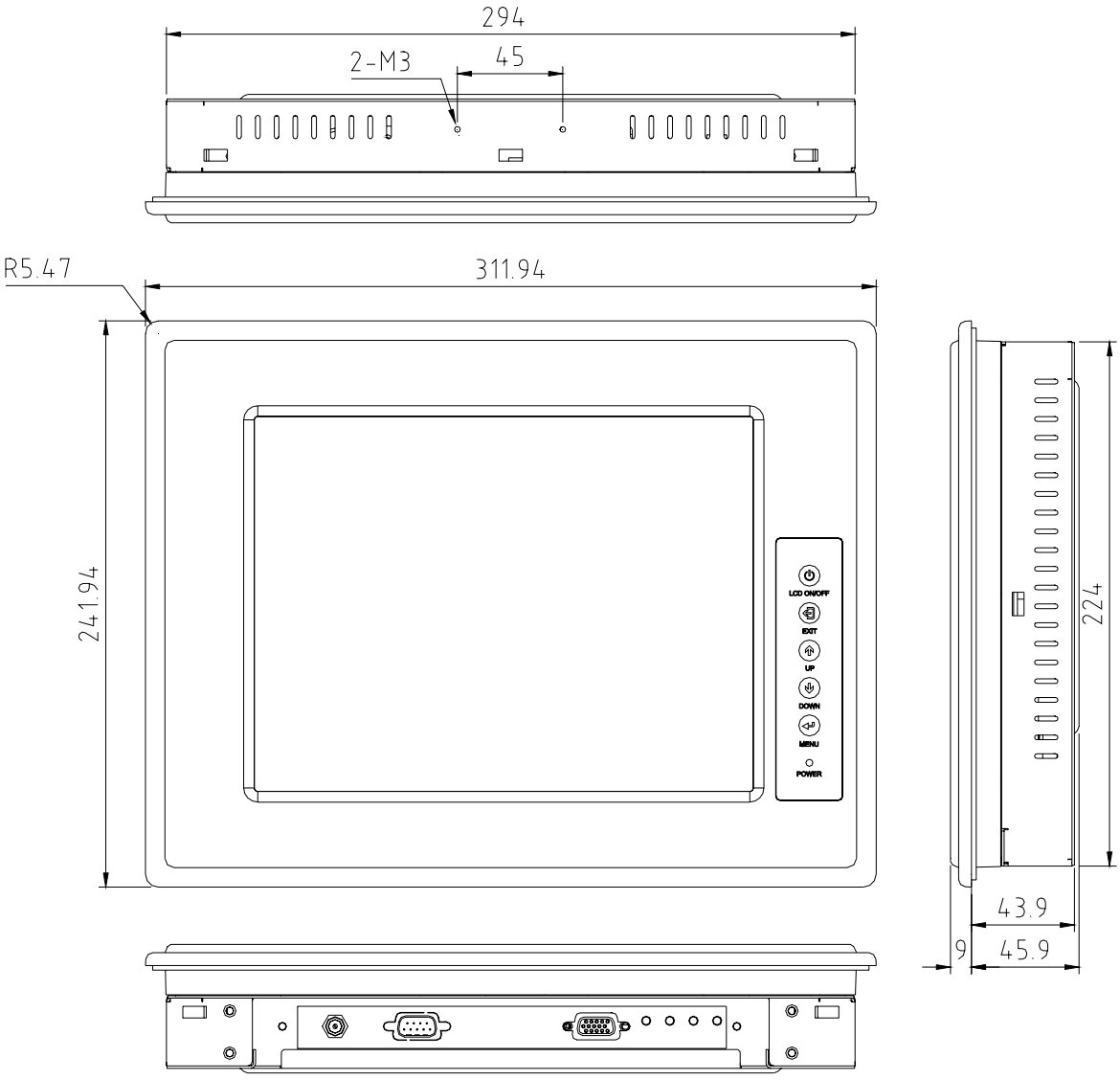
- **Environmental specifications**
  - Operating Temperature ： 0 ~ 50℃
  - Relative Humidity：10-95% @0~50 ℃, non-condensing
  - Vibration： 5 to 17 Hz 0.1" double-amplitude displacements,17 to 640 Hz 1.5 G peak to peak

****** Maximum System Power Consumption：10Watt / 110ACV (including touch screen)

1.4 Dimensions

The following diagrams indicate the dimensions of DM-104.

Front Panel : 311.94mm x 241.94mm x 9mm (W x H x D)
Cabinet : 294mm x 224mm x 45.9mm (W x H x D)

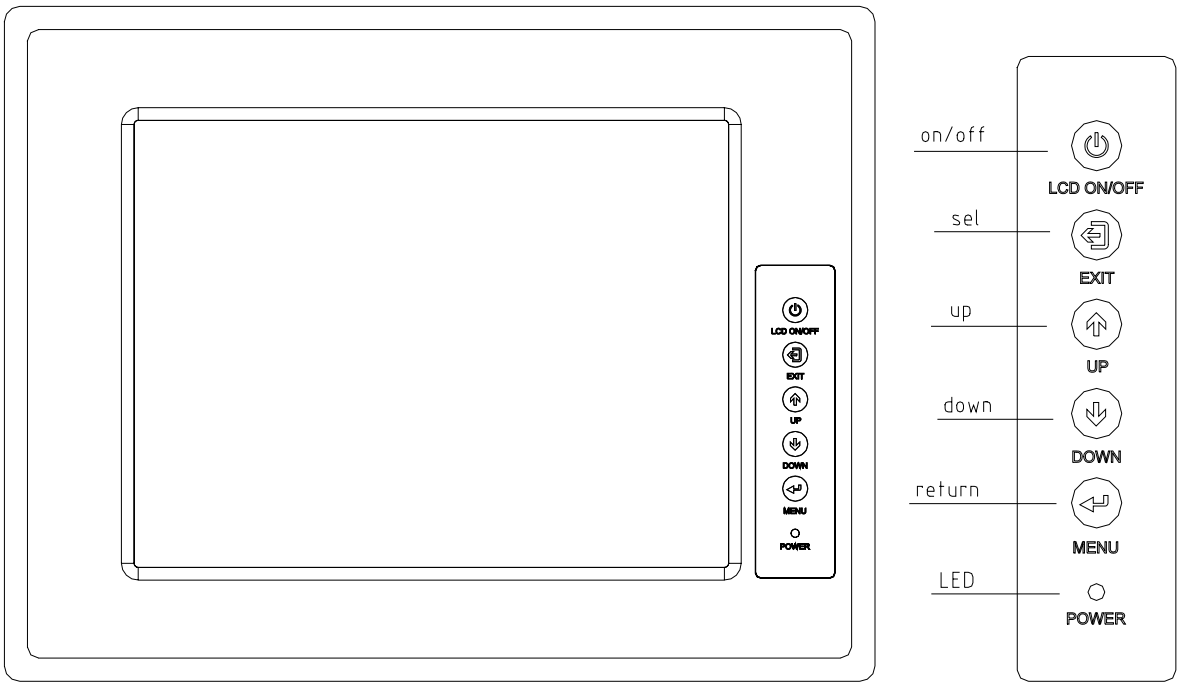


(Unit: mm)

Chapter 2 System Setup

It is very easy to set up DM-104 for operation. As you set up your system, please refer to the following procedures.

2.1 Front Panel Operation

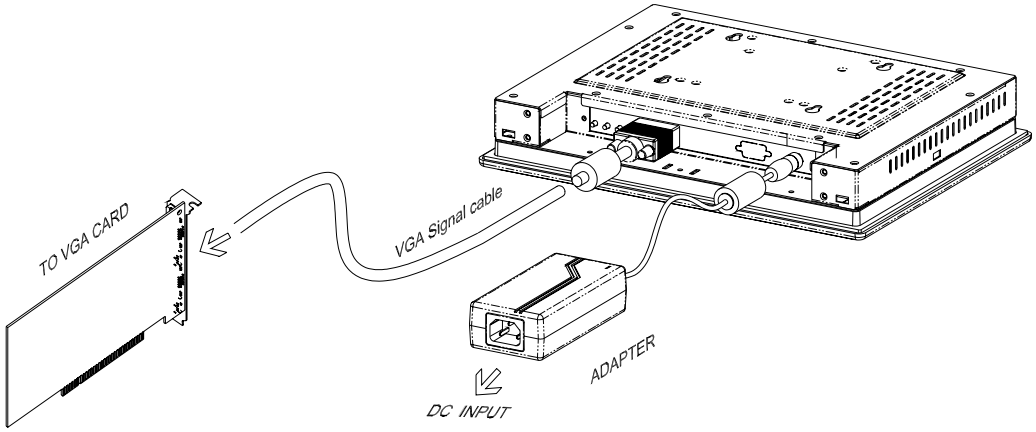


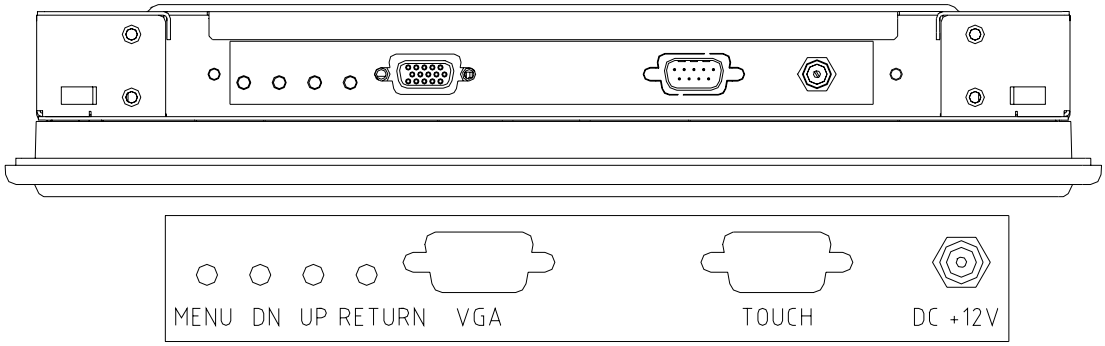
2.2 LCD Installation

DM-104 provides two display options. One is LCD only; the other is LCD with a touch screen. You can use VGA cable to connect the LCD panel to the system VGA interface.

2.2.1 LCD without Touch Screen

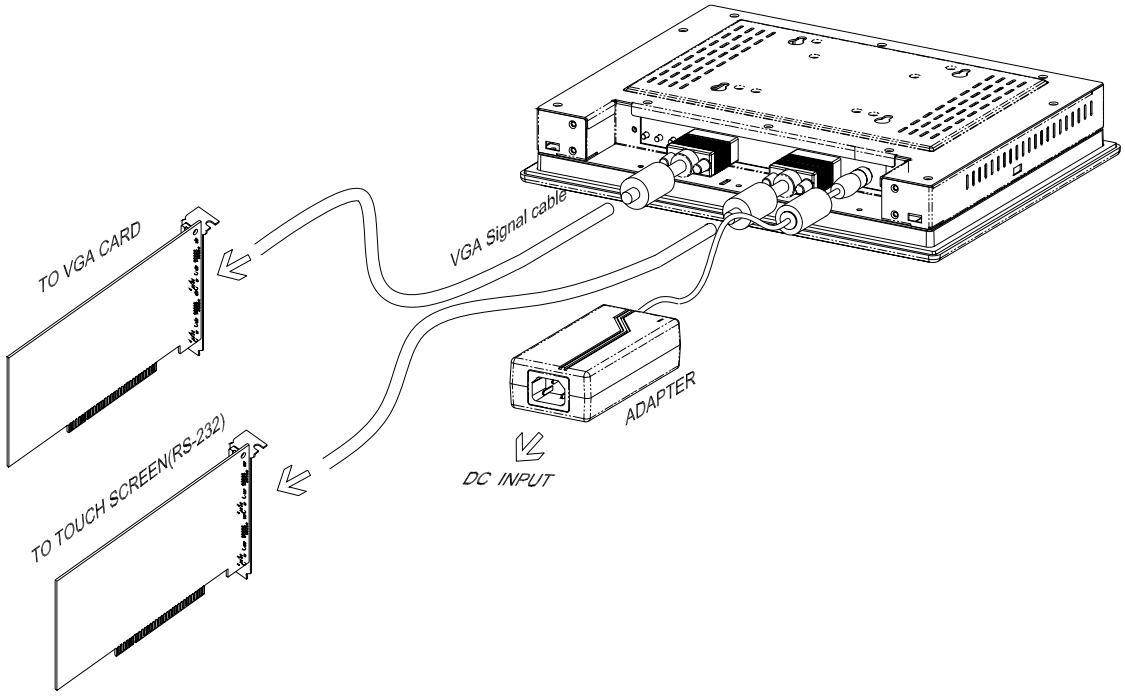
There are five LCD adjustment switches on the rear panel. Besides, there are two ports for VGA and RS-232. If you want to install LCD without a touch screen, just connect the VGA card to the VGA signal input port. The power connection options are 12V DC jack and terminal block of 12V DC input.





2.2.2 LCD with a Touch Screen

If you want to install LCD with a touch screen, please connect RS-232 connector from LCD to the COM port on CPU card. The driver for the touch screen is in the CD enclosed.



2.3 Panel Mounting

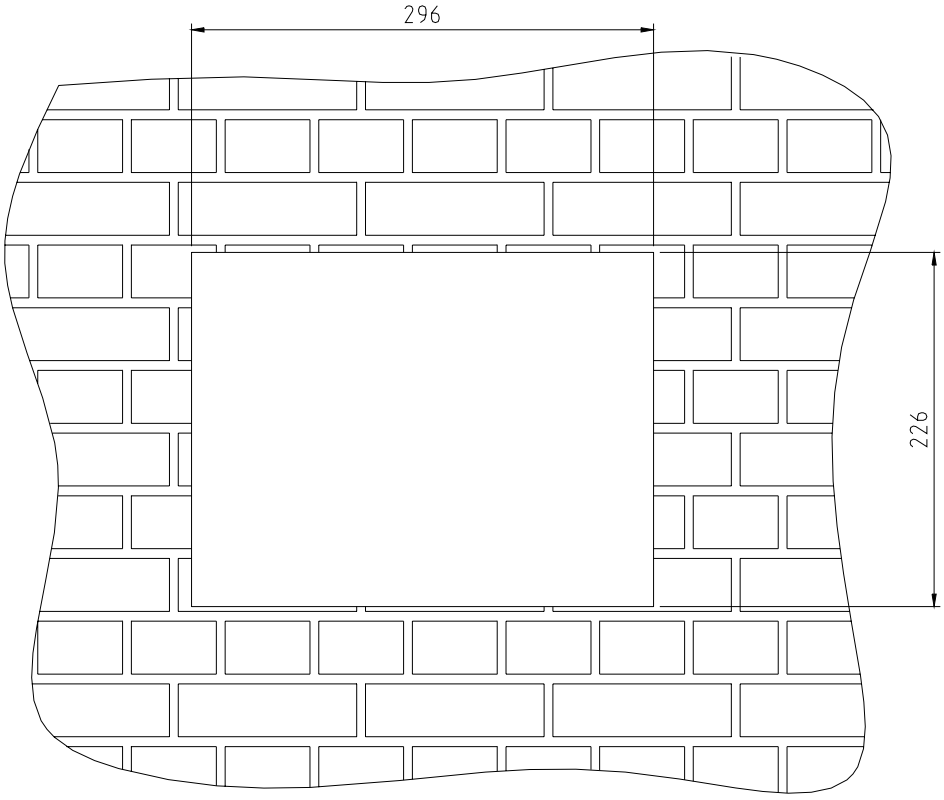
DM-104 is suitable for panel mounting. As you mount this flat panel display, please refer to the diagram below.

Note：Check the cut out dimension first. (See Figure 1)

Step1 Insert the extended chassis holder into the middle of the bottom on the back of the chassis as shown in figure 2 and fasten it.

Step2 Place the machine into the panel.

Step3 Fasten it to the panel with eight supporters as shown in figure 3.



The dimension is for panel mounting

Figure 1

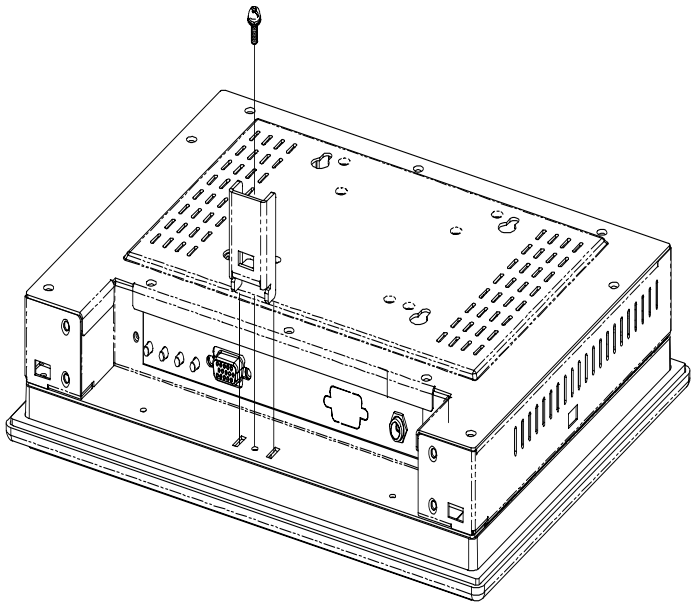


Figure 2

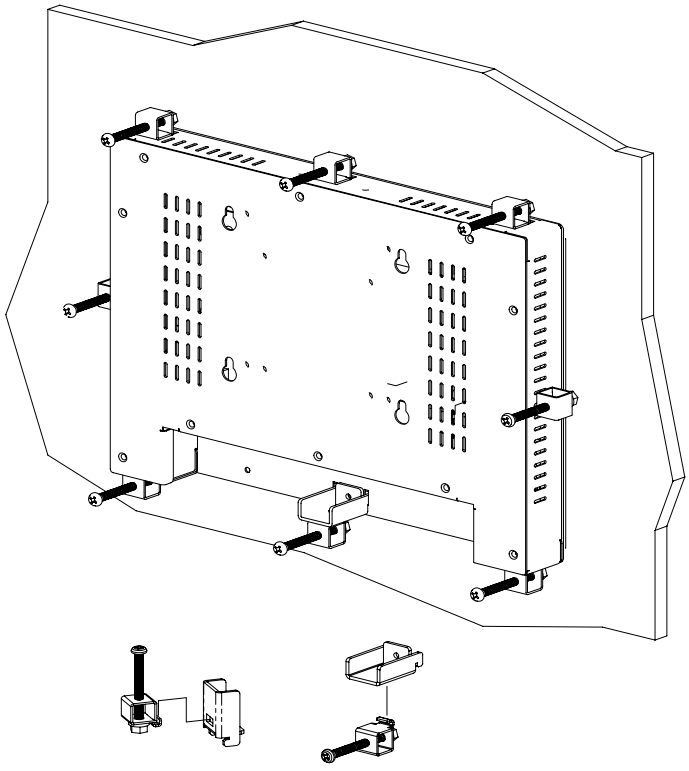
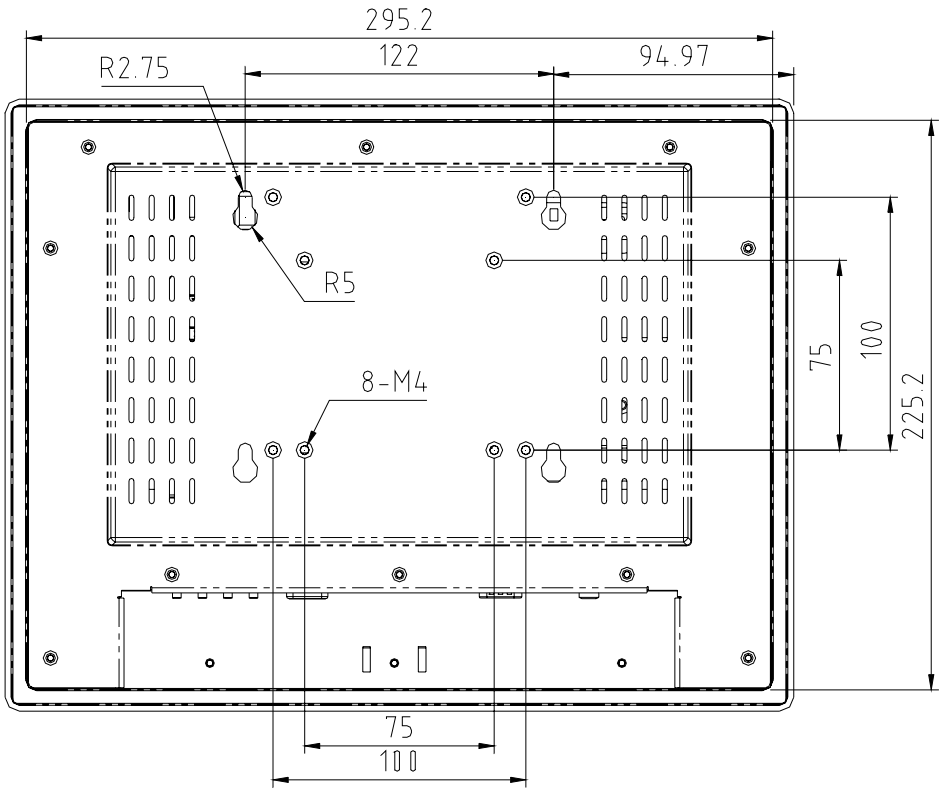


Figure 3

2.4 Arm Mounting

DM-104 is also suitable for both 75/100mm interface pads and arm mounting. (Arm mounting and the specification conform to the proposed VESA standard.)



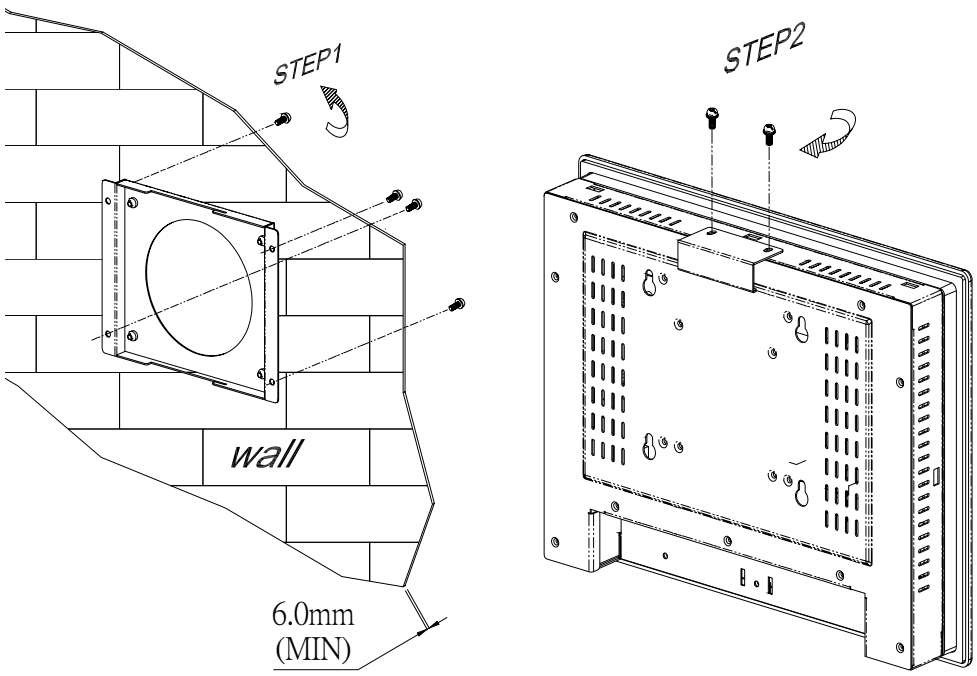
2.5 Wall Mounting

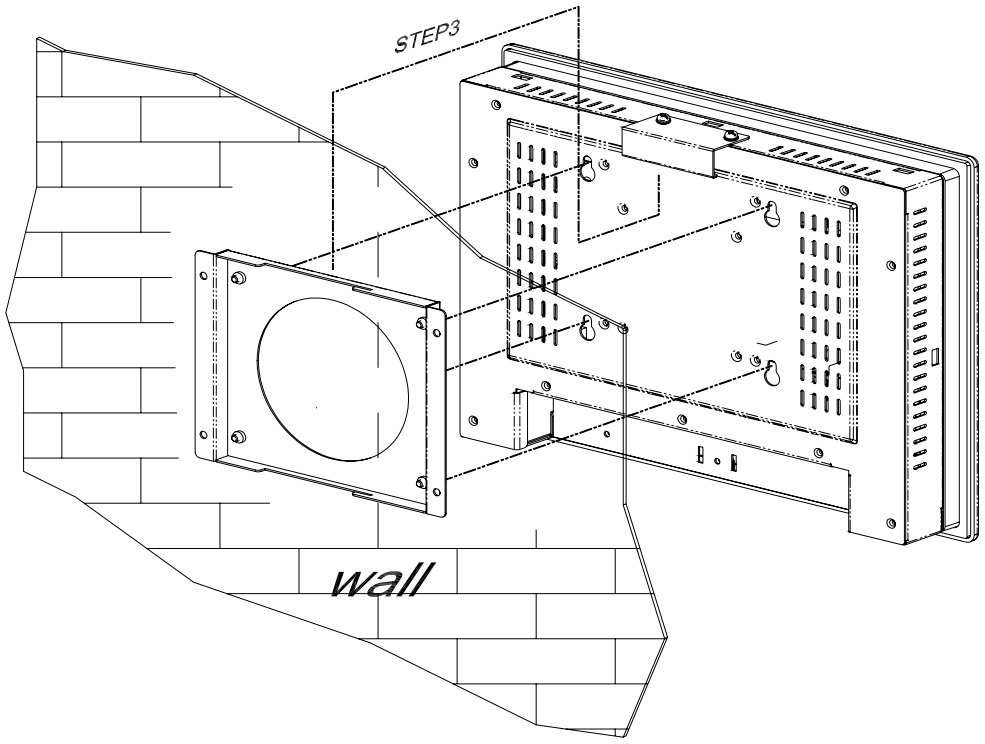
DM-104 is suitable for wall mounting as well and the specification conforms to the proposed standard.

Step1 Drill holds on the place for wall mounting according to the holder shown on the left side below, and then fasten up the wall mount vibration kit onto the wall.

Step2 Fasten the wall mount bracket onto the top of the middle of the top on the back of the chassis.

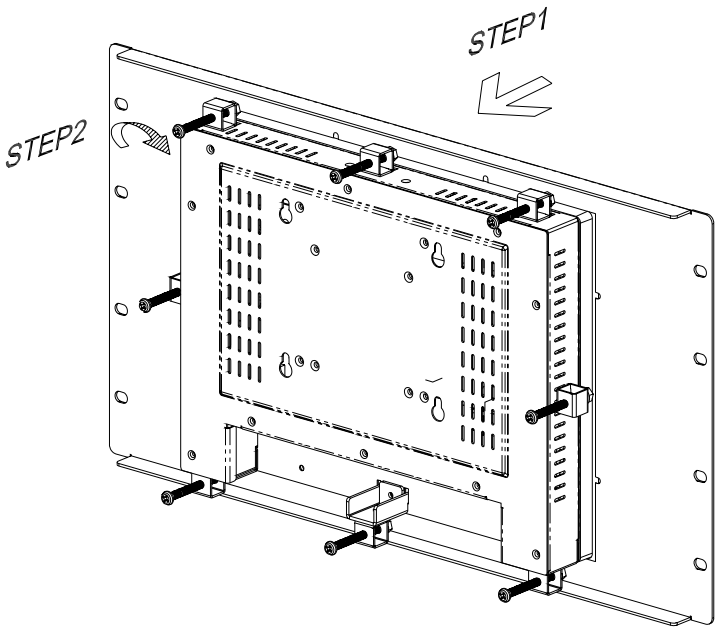
Step3 Hang the machine to the wall mount vibration kit.

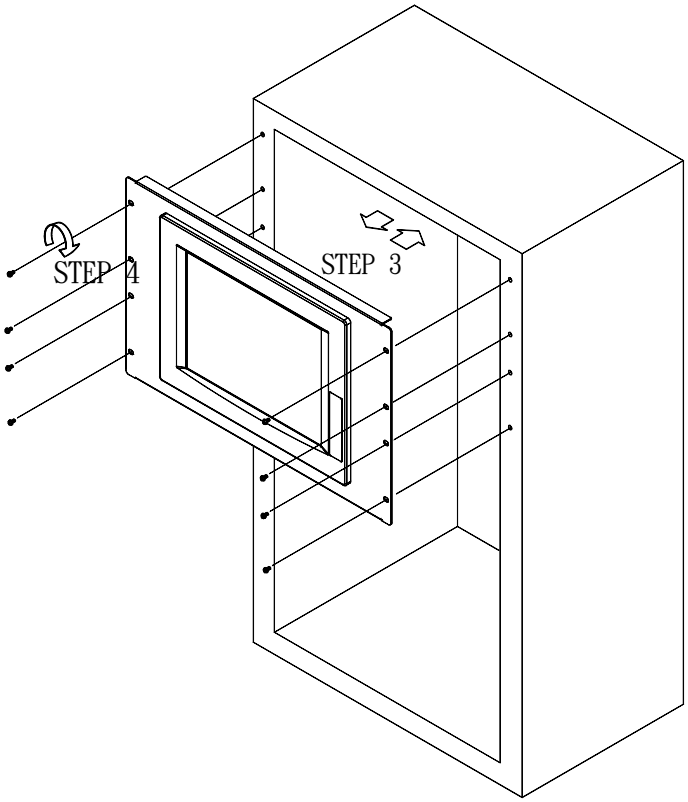



STEP3
wall

2.6 Rack Mounting

DM-104 provides optional rack mount kit for industrial rack. The following diagrams show how to mount DM-104 onto the 19" rack. (6U)





Chapter 3 User Mode OSD Information

3.1 User Mode OSD Structure

LEVEL 0	LEVEL 1	VALUE
RGB Menu	**Brightness**	**Press Select Button**
	Red	**-127 ~ 127**
	Green	**-127 ~ 127**
	Blue	**-127 ~ 127**
	Color Temp	**0 ~ 7**
	Sharpness	**0 , 1**
	Main Menu	**Press Select Button**
Geometry Menu	**Auto-Adjustment**	**Press Select Button**
	H. Position	**0 ~ 252**
	V. Position	**1 ~ 26**
	H. Total	**1004 ~ 1108**
	Auto Phase	**Press Select Button**
	Delay	**0 ~ 61**
	Main Menu	**Press Select Button**
Contrast Menu	**Auto-Balance**	**Press Select Button**
	Contrast	**Press Select Button**
	Red	**0 ~ 511**
	Green	**0 ~ 511**
	Blue	**0 ~ 511**
	Balance	**Press Select Button**
	Red	**0 ~ 127**
	Green	**0 ~ 127**
	Blue	**0 ~ 127**
	Main Menu	**Press Select Button**
Language Menu	**English**	**Press Select Button**
	Spanish	**Press Select Button**
Auto Training		**ON/OFF**
DOS/GFX		**ON/OFF**
NVRAM init		**Press Select Button**

Power Down		**Press Select Button**
Revert		**Press Select Button**

3.2 User Mode OSD Item description

- **Auto-Adjustment**

This item will automatically adjust the H/V position, frequency, phase, and black level.

- **Auto Phase**

This item will automatically adjust the sampling.

- **Brightness**

It is used to adjust the brightness of screen. This function will adjust the offset value of ADC. Please take note that setting this value too high or too low will destroy the quality of image.

- **Contrast**

It is used to adjust the contrast of screen, this function will adjust the gain value of ADC. Please take note that adjusting this value too high or too low will destroy the quality of image.

- **DOS/GFX**

It is used to choose VGA Input signal that is text mode or graphic mode. (It is only selectable on resolution of 720/640x400 or 720/640x350.) 400 and 350 standard IBM mode have the same Hsync. and Vsync. Value. AV-9261 MPU can not differentiate them automatically and users need to adjust them by manual to match proper VGA mode.

- **H. Position**

It is used to adjust horizontal display position of image.

- **V. Position**

It is used to adjust vertical display position of image.

- **Language**

It is used to select the languages using on OSD display AV-9261 now can support 2 languages on OSD display. English is the default language.

- **Revert**

It is used to reload original parameters from the factory's OSD data area of the system EEPROM 24c16 device to re-initialize AV-9261 system device. When users adjust OSD data too much and can not see better quality than before, users can select this item, Revert, and MPU will reload default BIOS setting and re-initialize the system.

- **Save**

It is used to save the parameters into the user OSD adjustment data area of the system EEPROM 24c16 device and close OSD. Whenever users adjust any parameters, it is necessary to execute this item to save data into EEPROM. And next time power on, the MPU will use the storied data to initialize the AV-9261 system.

- **Main Menu**

Every level of OSD has the item name, **Main Menu** that lets users leave current level and jump to upper level, or press the **Return** key.

- **Exit**

Press the **EXIT** key to exit the OSD menu when the OSD menu is on the top of the level.